

## **CLAIMS**

What is claimed is:

1. A prosthetic knee system, comprising:
  - a femoral knee prosthesis formed of two separate components, a lateral condyle and a medial condyle, wherein the lateral and medial condyles are assembled in-vivo;
  - 5 a tibial knee insert formed of two separate components, a lateral insert adapted to articulate with the lateral condyle and a medial insert adapted to articulate with the medial condyle; and
  - a tibial baseplate formed of two separate components, a lateral baseplate component and a medial baseplate component, wherein the lateral insert  
10 connects to the lateral baseplate component, the medial insert connects to the medial baseplate component, and the lateral baseplate component connects in-vivo to the medial baseplate component.
2. The prosthetic knee system of claim 1 wherein a femoral locking mechanism connects the lateral condyle to the medial condyle.
3. The prosthetic knee system of claim 2 wherein a tibial locking mechanism connects the lateral baseplate component to the medial baseplate component.
4. The prosthetic knee system of claim 3 wherein the tibial and femoral locking mechanisms include a male protrusion and a female recess.
5. The prosthetic knee system of claim 4 wherein the tibial and femoral locking mechanisms form a Morse taper connection.

6. The prosthetic knee system of claim 1 wherein the lateral and medial inserts include a recess adapted to engage a shoulder on the lateral and medial baseplate components.

7. The prosthetic knee system of claim 6 wherein lateral insert is connected in-vivo to the lateral baseplate component, and the medial insert is connected in-vivo to the medial baseplate component.

8. A modular prosthetic knee system, comprising:

a femoral knee prosthesis formed of two separate and different components connectable together, a lateral condyle and a medial condyle, wherein the lateral and medial condyles are connected together in-vivo;

5 a tibial knee insert formed of two separate components, a lateral insert having an articulation surface adapted to articulate with the lateral condyle and a medial insert having an articulation surface adapted to articulate with the medial condyle; and

10 a tibial baseplate formed of two separate components connectable together, a lateral baseplate component and a medial baseplate component, the lateral insert being connected to the lateral baseplate component, and the medial insert being connected to the medial baseplate component, wherein the lateral and medial baseplate components are connected together in-vivo.

9. The prosthetic knee system of claim 8 wherein the lateral and medial condyles connect at a first junction along a medial-lateral plane.

10. The prosthetic knee system of claim 9 wherein the lateral and medial condyles connect at a second junction along an anterior-posterior plane.

11. The prosthetic knee system of claim 10 wherein the first and second junctions form a seamless interface.

12. The prosthetic knee system of claim 8 wherein the lateral and medial inserts connect at a junction along a medial-lateral plane.

13. The prosthetic knee system of claim 12 wherein the junction forms a seamless interface.

14. The prosthetic knee system of claim 8 wherein the tibial knee insert and tibial baseplate are divided along a medial-lateral plane.

15. The prosthetic knee system of claim 14 wherein the lateral and medial inserts have a half-moon shape and connect together to form a substantially oval shape.

16. A modular prosthetic knee system implantable in a knee using minimally invasive surgery, the prosthetic knee system comprising:

5 a femoral knee prosthesis formed of a lateral condyle and a medial condyle, wherein the lateral and medial condyles are separate components that are connected together in-vivo; and

10 a tibial knee prosthesis having two separate components including a lateral insert and baseplate and a medial insert and baseplate, the tibial knee prosthesis having an articulation surface for articulating with the lateral and medial condyles of the femoral knee prosthesis, wherein lateral insert and baseplate are inserted through a lateral incision in the knee and the medial insert and baseplate are inserted through a medial incision in the knee, the lateral insert and baseplate being connectable in-vivo to the medial insert and baseplate.

17. The modular prosthetic knee system of claim 16 wherein the tibial knee prosthesis is divided along a medial-lateral plane to form the two separate components, the lateral insert and baseplate and the medial insert and baseplate.

18. The modular prosthetic knee system of claim 17 wherein the femoral knee prosthesis is divided along the medial-lateral plane to form the two separate components, the lateral condyle and the medial condyle.

19. The modular prosthetic knee system of claim of claim 16 wherein the tibial knee prosthesis has a substantially oval shape.

20. The modular prosthetic knee system of claim 19 wherein the lateral insert and baseplate have a half-moon shape, and the medial insert and baseplate have a half-moon shape.